Images in Cardiology

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Early Recurrence of Angina Pectoris after Aortocoronary Bypass Surgery

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FIG. 1 Digital subtraction angiography: severe stenosis of the proximal left subclavian artery causing subclavian coronary steal syndrome after aortocoronary bypass grafting using the left internal mammary artery.

FIG. 2 Selective coronary angiography: retrograde left anterior descending flow into the left internal mammary artery demonstrating the steal phenomenon.

Early recurrent angina pectoris after aortocoronary bypass surgery is usually caused by graft stenosis at the anastomosis site, occlusion of the bypass graft due to thrombosis, injury of

the graft during intraoperative preparation, decreased "run-off" by high vascular resistance due to severe stenosis of peripheral vessels, or a rapid progression of atherosclerosis in native coronary arteries. The coronary steal syndrome (CSS) is an uncommon but well recognized phenomenon following coronary artery bypass surgery using the internal mammary artery. A 58-year-old woman with severe progressive exertional angina pectoris and pain of the left arm underwent successful primary aortocoronary bypass surgery. Nine months later coronary angiography showed no significant progression of atherosclerosis in native coronary vessels. Moreover, function of the venous bypass grafts to the right and left circumflex arteries was excellent. However, arteriography revealed severe stenosis of the proximal left subclavian artery (Fig. 1) with retrograde flow into the left internal mammary artery (LIMA) and consecutive steal from the left anterior descending coronary artery (Fig. 2). Successful percutaneous transfemoral an-

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FIG. 3 Digital subtraction angiography: complete resolution of stenosis after percutaneous transfemoral angioplasty and stent implantation.

gioplasty and stent implantation of the left subclavian artery (Fig. 3) improved flow into the LIMA graft with complete resolution of angina pectoris and exertional pain of the left arm. Discrepancy between right and left arm blood pressures disappeared. Thus, proximal subclavian artery stenosis with coronary subclavian steal syndrome should be considered as a cause of recurrent symptoms in patients with previous aorto-coronary bypass grafting using the internal mammary artery.

Percutaneous transfemoral angioplasty is a safe and effective treatment of subclavian coronary steal syndrome.

Reference

Edwards WH: Subclavian revascularisation. A quarter century experience. *Ann Surg* 1994;219:673–678